1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

CHAPTER V

MATERIAL CULTURE (CONTINUED)

METAL WORK

326 METAL workers may be divided into three classes: ironworkers or blacksmiths, who are subjected to social restrictions, Jews, and gunsmiths.

325 None of these metal workers know the art of extracting metals from their ores — all the raw material used in the Rif, Senhaja, and Ghomara in recent times has been brought in from outside.[1] Thus, using smelting as the criterion, one might say that these people are not in an age of metal, despite the fact that they use metal tools exclusively. This observation is doubly true when one considers that all the metal workers, except the gunsmiths, are counted as outsiders and immigrants.

The blacksmiths use double bellows of goat-skin bags, which they work up and down with sticks. These bellows, called *tahanut*, must not be confused with the *arrubee*, the bellows of European fireplace type now made in Taghzuth and copied from those made in Meknes and Fez. The blacksmith works over a charcoal fire, quickened by means of these bellows: he heats his metal until it is red hot and then forges it on an anvil, called *er minebuth*, which consists merely of an iron stake driven into the ground (unless he has had the good fortune to buy a European anvil). All iron is forged, none is cast; in fact, the only 325 metal melted and cast is lead, used for bullets. The Riffian smiths are, however, able to perform one feat of considerable difficulty; they weld steel edges into soft iron implements, 177 an art unknown, I believe, to the Negroes of Central Africa, from whom, judging by tradition, the physical type of the smiths, and the types of implements, modern North African metallurgy was borrowed. The Vandals, according to Procopius,[2] are supposed to have shown the North Africans the secret of steel-working, whence the smiths may have obtained this technique, if they did not obtain it later from Jews or Arabs.

326 The blacksmiths make hoes, sickles, ploughshares, pruning knives, knives, shears, 412 scissors, axes, adzes, chisels, hammers, and horseshoes. Such tools as files, vises, saws, 439 planes, awls, needles, and pincers they import.

325 Hoes, sickles, adzes, and axes were formerly so made that they could be hafted only to 412 shafts which bent at right angles; in other words, the hafting superficially resembled a Bronze Age technique, especially since the end of such a tool away from the cutting edge was equipped with a socket for the reception of the end of the hafting. In order to make this socket, the implement was constructed as follows: a flat square sheet of iron was ham-

[1] Marmol (chaps. 41, 43, 46) states that iron was extracted in the neighborhood of Melilla and of Mazgo, as well as in Beni Said. The first two sites were probably worked, or at least directed, by townspeople, who were not, according to Marmol's own accounts, native Berbers in blood. In Beni Said the mining operations were well organized, and merchants came from as far as Fez to buy iron balls, from which the tools Berbers use were made.

The excellence of the organization of this extinct industry in Beni Said may have been due to Arab or some other non-Riffian inspiration. At the time Marmol wrote the eastern Rif was much more open to outside influences than it has been in later centuries.

[2] Marcus, p. 217 (from Cassiod. Variar. v. 1, Victor Vitensis I, 10).

[p. 64]

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325 412 mered out, and then the two sides of it were folded over the central part until they met. This doubled-over sheet was then pounded and forged until the cutting end had become one piece; the separation of the flaps from the main body was exaggerated on the other end, and rounded until a socket fit for the reception of a handle was formed. After this a piece of steel was welded into the cutting end, smoothed, and sharpened. This method of folding and forging, with socket haft, survived until less than a generation ago, when the modern type of hafting, with a hole through the implement at right angles to the long axis, came in. [171] The socket method of hafting with the sides folded over is found today among the tribes of the Congo. It is said that the first smiths to use the modern hafting were the Ulad el Hani of Beni Amart, traditionally Arabs, and that the smiths of Khebaba and of Taghzuth followed them.

325 531 Another similarity to negro technique, besides this method of hafting, is found in the method of ornamenting the handles. A braid of *halfa* or palmetto is sometimes made, and wound about the handle, leaving open spaces in spirals. The handle is then thrown into a fire and taken out before it starts blazing. [171] The braid is then taken off, and a spiral pattern is found burned around the length of the handle. Adzes with this identical form of decoration are found in the Peabody Museum collections from the Congo.

[326] 411 The oldest smiths in the Rif, if we accept tradition, are the craftsmen of Khebaba in the Gzennaya. These Ikhebibshen, as they are called, formerly held the monopoly of dagger-making. The Khebaba daggers, famous throughout the Rif and sold in every market, are long straight blades, well tempered, and sharpened on all of one side and on half of the other. Blood-rills run down the blades; the cross hilts are of bone, as is the major part of the hilt, which is often covered with leather. These keen and effective daggers are encased in scabbards of brass pounded over wood. The designs on the brass, pounded in, are rectilinear and consist mostly of tilted crosses set in squares.

The Khebaba daggers seem to have become scarce about a generation ago, although they are still made in limited quantities and can still be obtained. They were supplanted in general popularity by Senhajan knives from Taghzuth, and by knives from Wezzan, both of these being of one model, slightly curved with the outside sharpened, and equipped with a guardless bone hilt inlaid with brass wire. These knives have in recent years been made in Meknes, and most of the present Riffian daggers are imported from that city, although dagger-making is still carried on by local smiths in each tribe.

326 492 231 The blacksmiths of the Rif leave their shops for two principal purposes, to go to Melilla or Fez for metal, or to go to market, where they shoe horses and mules (see plate 15) and slaughter animals the meat of which is to be sold. The horseshoes and mule shoes which they use were formerly home-made, but at present bear the appearance of European manufacture.

326 563 The second class of metal workers, the Jews, are not found in all the tribes. They live only in that part of the Galiya immediately adjoining Melilla, at Bades, in the tribes of Beni Bu Frah and Mestassa, at Targuist, occasionally at Ajdir, and in the Jebarna section of Gzennaya. Before the rise of Abd el Krim, who set them to work making hand grenades, they seldom dared enter the tribes other than those mentioned, since the appearance of a Jew was traditionally greeted with a volley of stones. Many of them speak no Arabic, conversing only in *thamazighth*, and frequently one finds individuals among them with no apparent Jewish physical characteristics, but able to pass easily as Riffians. Their specialty is the manufacture of brass trays, sugar hammers, silver and pewter brooches, silver finger

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

WOODWORK AND CARPENTRY

322 Woodworking is carried on as a trade throughout the Rif, Senhaja, and Ghomara, and in all of these places is considered a respectable profession, in no way to be confounded with the despised art of iron-forging. Carpenters are naturally most flourishing in the tribes where wood is most abundant, notably the tribes of the Senhaja Sghir, Beni Mesduy, Beni Amart, and Gsennaya. Half the tribesmen of Beni Mesduy are carpenters, and are called out to neighboring tribes, notably to Beni Amart, to ply their trade.

322 The tools used by carpenters are as follows:

412

tharyinith thumkarun	axe	*er barimith* (Arabic)	awl
tharyinith n thinjarut	adze	*er ghasarith* (Arabic)	gouge
er minshar (Arabic)	saw	*es siar* (Arabic)	vise
er mithare (Arabic)	plane (see plate 15)	*jukkuth*	pincers
thrima (Spanish, from *lima*)	file	*user*	knife
imijhi	chisel	*thimsharuth*	scissors
thafathisth	hammer		

The Riffian and Senhajan carpenters use most commonly the axe, adze, and chisel. Planes, awls, vises, gouges, and files are of more recent introduction and hence are used less frequently. Saws are frequently employed, but one may truthfully say that Riffian carpentry is largely dependent upon adze technique. The adze is their tool *par excellence*, and they are extremely skillful in fashioning wooden objects with it.

313 Woodcutters, in felling trees upon the mountains, employ the axe exclusively. Once having felled the tree, they trim it, and, if it is too long to drag down the slope in its entirety, saw it into convenient lengths, unless they intend to use if for a roof-beam. The woodcutter chisels a square hole into the side of the log near the butt end, and with bits of wood wedges a long withe into it. If there are several men available for hauling the log, as many withes are wedged in as there are men. By lifting and dragging they move the log to the edge of the forest, and thence drag it down the slope, often finding it more difficult to keep it from rolling or falling end over end than to keep it moving. Sometimes the log is squared with the adze before being taken from the mountain.

When the woodcutter has succeeded in conveying the log to his house, he sets about preparing it for use. If the log is to be made into planks, he saws it lengthwise, making as many parallel cuts as he can, and carefully leaving the butt end solid — in other words, the planks into which the log has been sawed are still attached at one end. He takes the log, so cut, to market, and breaks off each plank as he sells it. (See plate 15.)

322 In making doors, beams, window frames, and shutters, the planks, whether originally sawed or not, are smoothed and flattened with the adze. So expert are the Riffian carpenters at wielding this tool that they can make a smooth surface on which no lines can be discerned. To leave a line is considered a sign of poor workmanship. With the adze they fashion wooden spoons, smooth, delicate, and graceful, and with the same tool a heavier implement, the plough.

MANUFACTURE OF TAR

314 Among the tribes in which the conifer *takka* is found, the manufacture of tar is carried on as a common occupation by woodcutters. These craftsmen fell the trees and cut up and chip sections of the trunks into small pieces. They then dig a hole in the ground, setting in

243 (Ait Yusi), rue (Hiaina), or harmel (At Ubahti), and extremely frequently by a sickle or a dagger.

251 [242] Among the people of the plains the grain is stored in subterranean granaries consisting of a circular, bottle-shaped pit, the mouth of which is carefully sealed. Such a granary is called in Arabic matmura (Ulad Bu'aziz) or matmur (plur. mtamar; Andjra), and in Berber tasraft (plur. tiserfin; Aglu), tasraft (plur. tiserfin; Ait Warain), tasraft (plur. tiserfin; Ait Yusi, Ait Sadden, Ait Nder), dasraft (Ait Waryager). At each village there is a place, called l-mers, which contains a larger or smaller group of these pits.

251 778 [243] In Andjra baraka is added to the grain by a piece of bread being placed in the matmur; while the Ait Waryager, according to a scribe from their tribe, believe that the holiness of the granary itself may make the grain increase after it has been put there.

[244] The grinding of the corn is also subject to certain rules. Evil influences of various kinds must be avoided.

[245] The Igliwa do not even touch grain after 'asar, and in Andjra and among the Ait Waryager nobody is then allowed to lend his hand-mill to a neighbour.

776 778 [247] The Ait Waryager put tar and flour into the wooden box or earthenware vessel in which money is buried—tar in order to prevent the jnun from striking the owner when he again digs up his money, and flour, I was told, to keep the money clean. But perhaps the latter also is intended to serve as a protection against those spirits; in the same tribe a little salt and a grain of barley are sometimes put into a written charm to prevent it from being spoilt by jnun, who are said to be afraid of corn after the ra'sor (la-'sor) has been paid [783] out of it. At the Great Feast flour is used as a means of purifying the sacrificial animal before it is killed; and people who have attended a burial purify themselves by touching flour.

784 [249] In the Garbiya, the Hiaina, and elsewhere nobody would give away yeast from the house or tent after 'asar; to do so would be to give away the rezq or baraka (Ait Waryager).

4/2 The sieve—called in Arabic garbal (garbal, gurbal), karballu, or garballu, and in Berber tallunt (Amanuz, [250] Ait Warain), tallunt (Ait Sadden, Ait Yusi), dardund (Ait Waryager), arkkut (At Ubahti)—which is made of pierced sheep- or goatskin with a wooden rim, must also be handled with caution.

412 231 On the other hand, the sieve is also used as a fertility charm. Among the Ait Waryager, when a person has bought some sheep or goats, he puts a sieve at the entrance to the yard and makes the animals walk over it with a view to rendering them very fertile; and he then sprinkles the sieve with water to expel any evil influences which may cling to them.

244 [251] There are, moreover, certain superstitions and ceremonies connected with the vegetable garden.

The Ait Waryager believe that [252] a woman's presence in a vegetable garden would make it dry.

[254]

RITES PRACTISED FOR THE PURPOSE OF INFLUENCING THE WEATHER

789 In Morocco the failure of the crops is mostly due not to the lack of sunshine or too much rain, but to drought, and to avert this danger many different methods are resorted to.

The orthodox method is to perform the so-called salat al-istisqa in the morning at the musalla, or public place of prayer outside the town or village. This ceremony consists of two rek'at, or ordinary forms of prayer, two hotbat, or sermons, and one du'a, or supplication in which God is asked to send rain. In the prayer, however, the formula of takbir (allahu akbar, "God is most great") is replaced by the phrase istagfir allah, "implore the pardon of God", in accordance with the saying of the Koran, "Ask God's pardon, for he is merciful and will give you abundant rain; he has placed the rain as a reward for him who begs forgiveness for his faults". After the first hotba the preacher changes his mantle from the right to the left shoulder and vice versa, and the same is done by the congregation. That this is intrinsically a magical act calculated to bring about a change in the weather is apparent from the statement of the commentators that it is meant to show God the desire of the [255] faithful to see the threatening famine "turned" into abundance.

[257] Among the Ait Waryager the people go to the mosque of the village or a shrine, walk three times round it, sacrifice a sheep or goat, and make fatha. If this does not produce the desired effect the more religious members of the community, after they have said their

Chapter 2

LIVELIHOOD

243 The primary economic activity in the Central Rif is the cultivation of barley. The agricultural cycle is marked by the [221] planting and harvesting of this crop. Ploughing begins during the months between October and January depending on the occurrence of the first rain which is necessary to soften the soil. [409] Breaking the soil is done by wooden ploughs though the blades are made of metal. The terrain is first weeded and cleared of small rocks by the children of the family. Then the father, an 243 492 older son or a hired man commences the ploughing. Two animals, one on each side of the plough, are used. Mules are preferred, but rarely does a man have two. Thus, there is a bizarre mixture of animals including combinations of donkeys, cows and mules. The value of animals on the market is at its highest in this season since everyone needs them for ploughing.

243 After the land has been ploughed by the animals it is [412] broken even finer by the use of a hand hoe. When the land has been sufficiently prepared, the seed is sown by hand. Once the barley has been planted there is no further care of the fields. The crop is dry farmed and its yield depends entirely on the amount of rainfall it receives during the winter.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

J 241 171 the gradual decrease in the number of fruit and nut trees. The tribesmen of Jbala and the Atlantic littoral can count on adequate rainfall for a good cereal crop in most years. Moreover, since the summer weather is cooler and more humid than in the interior, crops do not suffer from excessive evaporation. Cereals in winter give way to summer crops of sorghum and chickpeas. The latter are not irrigated, and so there is no need for terracing. Slopes are covered with an irregular patchwork of cultivated plots without walls or ditches. Each hamlet is surrounded by cactus (*Opuntia Ficus-indica*), which is cultivated as a hedge and for its edible fruit.

Farm Implements

R 412 171 The implements used by Moroccan farmers are simple and few, for long-established habit opposes change. There are some general reasons for conservatism, such as the abundance and cheapness of manpower and the stagnation of industry. There are specific reasons as well: the prevalence of steep slopes, of small plots where only handwork is possible, and the difficulty of hauling heavy equipment through mountainous terrain. Implements are limited to mattocks, picks, hatchets, hoes, plows, grist mills, and equipment for pulping and pressing olives. Plowshares and other iron tools are made and repaired by local blacksmiths.

R 407 171 The Moroccan plow is a one-handled implement without wheels, colter, or moldboard. Wings are attached obliquely to either side of the share in order to widen the furrows, though not to reverse the sod. Since there is no harrow, clods are broken with hoes or clubs, and a second plowing is necessary to cover the seed. The share is made from a flat piece of iron hammered over at the edges to form a socket. The plow itself is much the same throughout the northern zone. J [407] [492] The main regional difference is in the manner of yoking. In Jbala plows are fastened to the foreheads of cows or oxen (pl. 4, *b*); neck yoking is practiced elsewhere.[1] Mixed teams are common, combining donkeys, mules, or oxen, or one of these animals with a camel (pl. 4, *b*).

R 412 171 J [412] Figure 21 illustrates the main hand tools. The first four (*a–d*) are digging and weeding tools; the complex tool in the fourth sketch (*d*) seems to be restricted to Jbala, for the Sanhajans and Rifians are unable to give it a name. The fifth sketch (*e*) shows an all-purpose grubbing and cutting tool, which the women use to collect fuel and edible plants. Figure 20, *f*, is the hatchet used by woodcutters in Ktama; 20, *g*, is the ubiquitous sickle.

R 256 171 Milling is ordinarily accomplished with a rotary hand mill consisting of an upper stone, turned with a wooden handle, and a lower stone that remains stationary.[2] In areas of abundant runoff there are also vertical water mills, consisting of a turbine wheel attached to the upper of two millstones, a hopper mounted above the stone, and a feed slot jiggled by the upper stone to ensure an even flow (fig. 22). The lower stone is larger than the upper, and is rimmed with a slightly raised border, broken at one place to allow extraction of the flour.[3] Mills of this

R [113] [1] For other illustrations of Moroccan plows, see E. Laoust, *Mots et choses berbères: notes de linguistique et d'ethnographie* (Paris: Augustin Challamel, 1920), pp. 275–301.

R [113] [2] This type of mill is illustrated in Ernst Rackow, *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958), plate LI.

R [113] [3] The origin and evolution of the rotary hand mill and the turbine mill are discussed at length in L. A. Moritz, *Grain-Mills and Flour in Classical Antiquity* (Oxford: Clarendon Press, 1958).

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

Mills of this type are usually privately owned, and the owner collects one-tenth of the flour. When there is neither hand nor turbine mill, the women pound the grain with iron bars.

The implements used to press and pulp olives are similar to those used in Roman time.[10] The apparatus consists of a mill, a press, and a vat. The millstone lies against a centrally placed revolving post and is turned by means of a horizontal shaft with one end secured in the center post and the other projecting beyond the stone (fig. 23). Mills are used both for bruising the fruit before pressing and later to pulp the pressed fruit for use as cattle fodder. The larger mills are powered by animals, the smaller by hand. The essential part of the press is a large log, held in place by heavy wooden screws, which is forced down on baskets filled with olive mash.

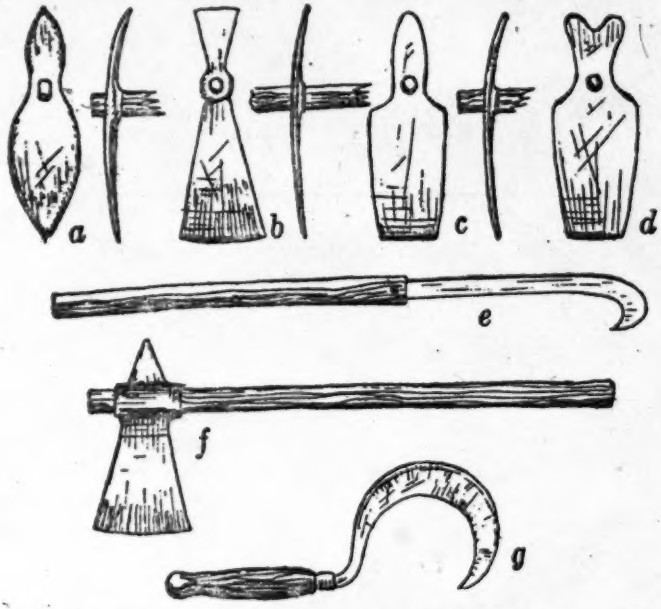

Fig. 21. Farm implements: *a*, *b*, *c*, *d*, digging and weeding tools; *e*, grubbing and cutting tool; *f*, hatchet used by woodcutters; *g*, sickle.

Role of Domestic Animals

In the statistical report of 1953 the number of domestic animals in Spanish Morocco is given as 1,104,000 goats, 661,000 sheep, 337,000 cattle, 55,000 donkeys, 22,000 mules, and 2,000 camels.[11] The number of goats nearly equals that of human beings. They are kept for their meat, milk, and hides. In many areas the number of goats is limited only by the amount of space available for storage of fodder and by the number of goatherds.

[10] H. Campe-Fabrer, *L'Olivier et l'huile dans l'Afrique romaine* (Algiers: Service des Antiquités, 1953).

[11] *Anuario estadístico, 1952–53*, p. 131, cited in note 1.